

DETAILED ACTION

1. This action is responsive to amendments filed on 5/4/2010.
2. Claims 10-15 are pending. Claim 15 is new. Claim 10 is amended.
3. Claims 10-14 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Yamakawa et al. (US Patent App. Pub. No. 2002/0034686) in view of Nissen et al. (US Patent 6341057).
4. The provisional obviousness double patenting rejection over Claim 10 of copending application 10/549480 has been withdrawn in view of Applicants' filing of a **Terminal Disclaimer** dated 5/4/2010.

Response to Arguments

5. Applicant's arguments filed 5/4/2010 have been fully considered but they are not persuasive.

Applicants contend that the comparative examples discloses in the Yamakawa et al. reference teach away from the use of acrylonitrile as a co-monomer used in the polymeric binder of the prior art by noting the lack of retention capacity illustrated in Table 1.

The Examiner respectfully disagrees and notes MPEP 2123 I. and II. "A reference may be relied upon for all that it would have reasonably suggested to one having ordinary skill the art,

Art Unit: 1796

including nonpreferred embodiments. *Merck & Co. v. Biocraft Laboratories*, 874 F.2d 804, 10 USPQ2d 1843 (Fed. Cir.), cert. denied, 493 U.S. 975 (1989)." Additionally, "A known or obvious composition does not become patentable simply because it has been described as somewhat inferior to some other product for the same use." *In re Gurley*, 27 F.3d 551, 554, 31 USPQ2d 1130, 1132 (Fed. Cir. 1994)."

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakayama et al. (WO 03/36744) (citing US Patent 7316864 as an English translation) in view of Nissen et al. (US Patent 6341057).

Nakayama teaches a slurry composition for an electrode which is comprised of a copolymer binder comprised of acrylonitrile or methacrylonitrile monomers further containing

(meth)acrylic acid or (meth)acrylate co-monomers i.e. formula 1 (Abstract). The polymer can additionally contain monocarboxylic acidsd (Col. 5, lines 14-19) and they are present in no more than 35 mol % of the polymer (Col. 5, lines 20-23). Nakayama further teaches the binder composition can contain viscosity modifies and fluidizing agents as required (Col. 9, lines 24-26).

Nakayama is relied upon as disclosed above. However, Nakayama does not teach the electrolyte as required by Claim 10.

Nissen et al. teaches double layer capacitors (Abstract) comprising current collectors, carbon electrodes with a polymer binder (col. 3, lines 36-39). The double layer capacitors based on tetraalkyl-ammonium salts have a high capacitance and higher power capability than double layer capacitors using electrolyte compositions of others like lithium salts. The formation of the interface layer appears highly dependent on ionic species of the electrolyte. The excellent performance of double layer capacitors on tetraalkyl-ammonium salts is ascribed to little, thin, stable and dense interface layers being formed at the electrode-electrolyte interface of such capacitors, allowing a narrow charge separation and a high capacitance. Examples of tetraalkyl ammonium salts include

Art Unit: 1796

tetraethylammonium tetrafluoroborate and tetraethylammonium hexafluorophosphate (col. 4, lines 34-67).

It would have been obvious to one skilled in art at the time invention was made to use the electrolytes of Nissen et al in the electric double layer capacitor of Nakayama et al, for above mentioned advantages.

8. Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakayama and Nissen as applied to claims 10-12 above, and further in view of Yamakawa et al. (US Patent App. Pub. No. 2002/0034686).

Nakayama and Nissen are relied upon as disclosed above. However, Nakayama and Nissen do not teach the amount or type of thickener as required by Claims 13 and 14.

Yamakawa teaches specific examples of viscosity modifying additives which are cellulose materials such as carboxymethyl cellulose (Yamakawa, para. 0055) which reads on the thickener of instant claim 13 and is added at 1 part by weight in Example 1 (Yamakawa, para. 0098).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the thickeners of Yamakawa in the slurry of Nakayama/Nissen as both compositions are drawn to electrode binders utilizing similar

Art Unit: 1796

polymeric binders that further contains thickening additives where Yamakawa discloses common thickeners and relative amounts utilized in such compositions.

Allowable Subject Matter

9. Claim 15 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

None of the prior art teaches a capacitor containing a binder and electrolyte wherein the binder contains the amount of compound (b) in the copolymer further containing the electrolyte as described in the Markush group of Claim 10.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS

of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jaison P. Thomas whose telephone number is (571) 272-8917. The examiner can normally be reached on Mon-Fri 9:30 am to 6:00 pm.

12. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy P. Gulakowski can be reached on (571) 272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system,

Art Unit: 1796

see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. P. T./
Examiner, Art Unit 1796

/Mark Kopec/
Primary Examiner, Art Unit
1796